

MAP Octant Test

LEGEND

Amplitudes exceeding tolerance
are flagged in red

Map Scale:
Scale 1:147,353



Client: USACE

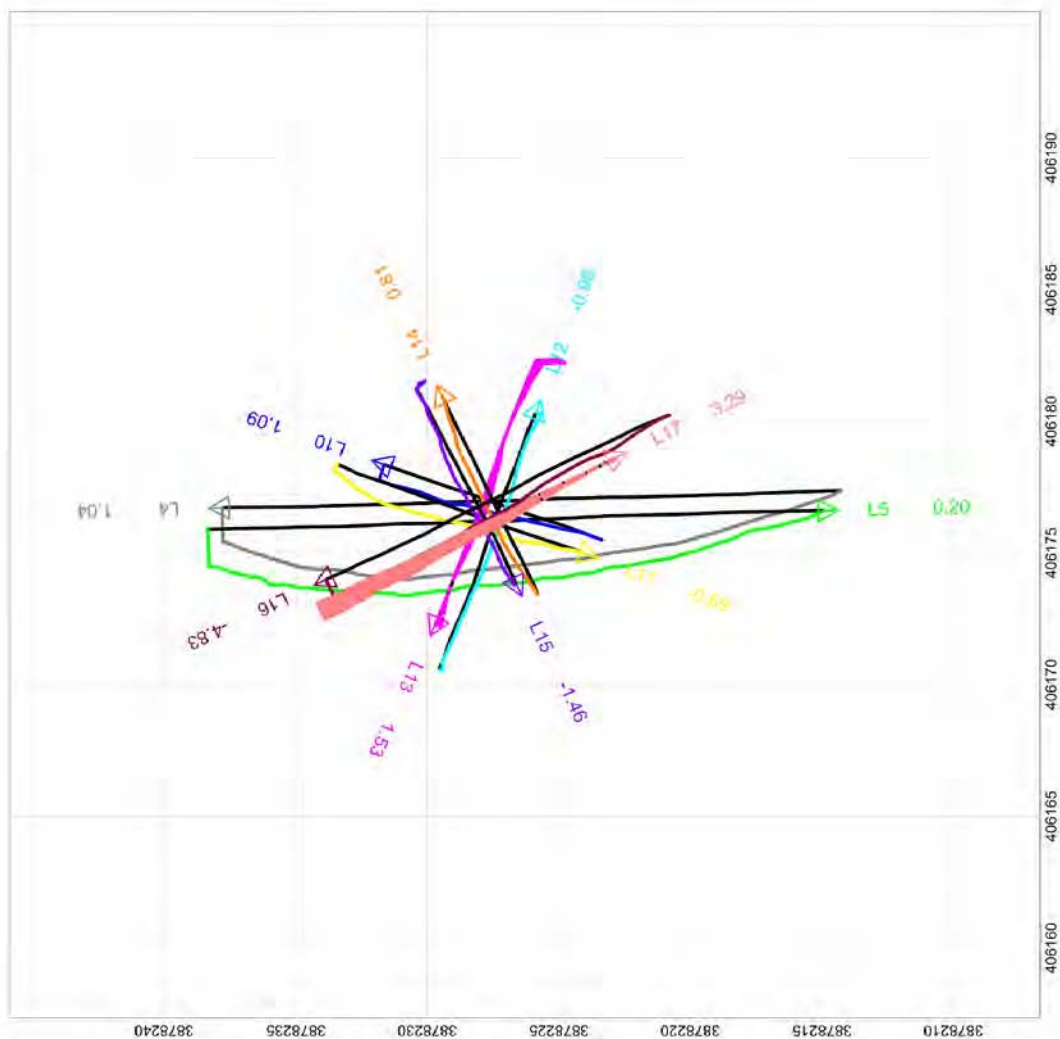
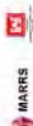
Project: MGRS Geophysical Probe-out

Contractor: MARRS Services, Inc.

Created by: Brian He. Verified by:

Date: 2007/06/08 File: Octant

Page Number: Approved:



MAP Octant Test

LEGEND

Amplitudes exceeding tolerance
are flagged in red



Map Scale:



Client: USACE

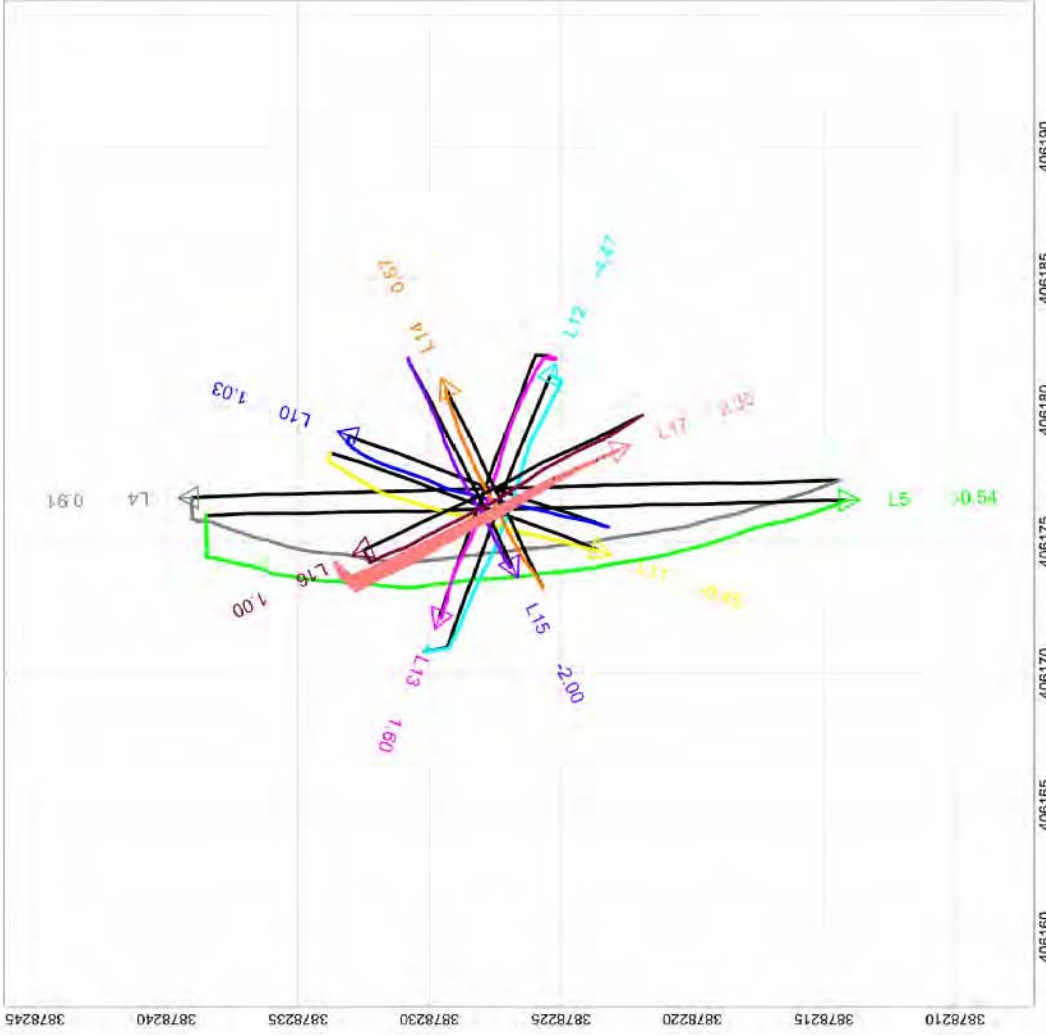
Project: MGRC Geophysical Prove-out

Contractor: MARRS Services, Inc.

Created by: Brian He. Verified by:

Date: 2007/06/05 File: Octant

Page number: Approved:

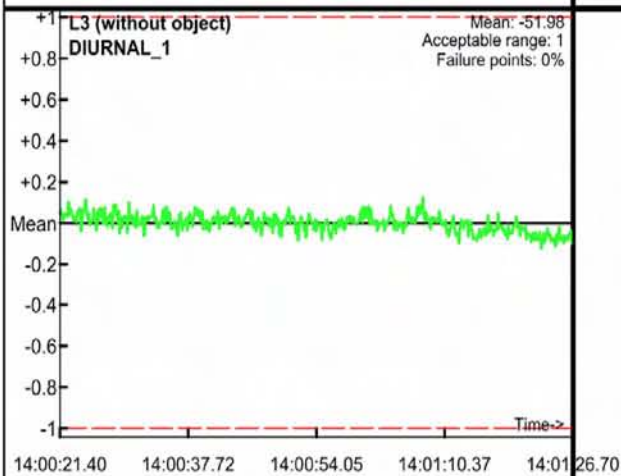
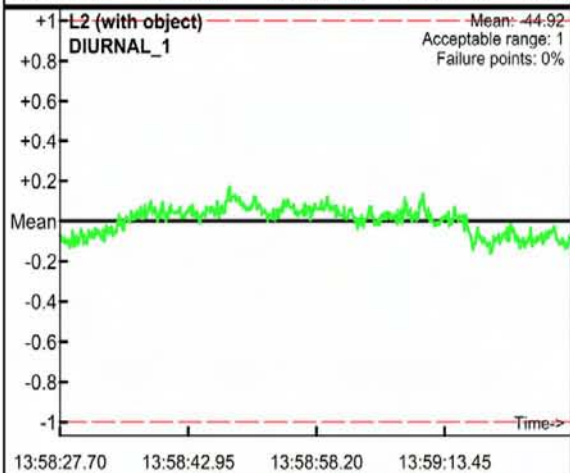
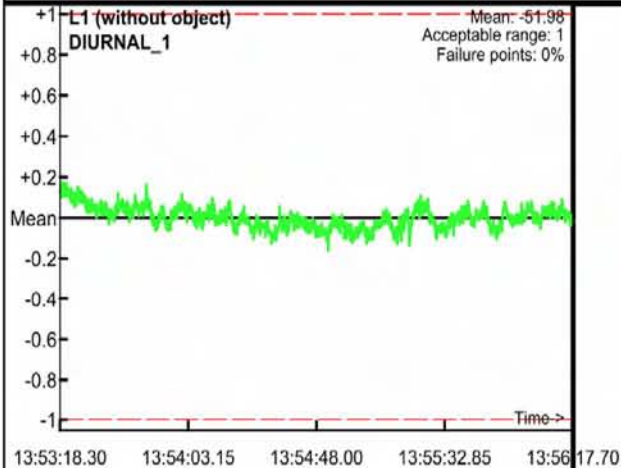


Static Calibration Test

Project: MGRC Geophysical Prove-out
Equipment: Magnetometers
Grid/Location:

● Outside range
— Acceptable limits

AM test
Operator: Brian Hecker
Date: 2007/06/20



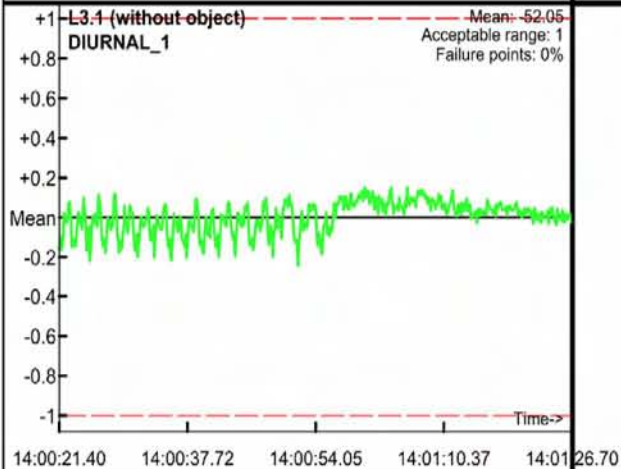
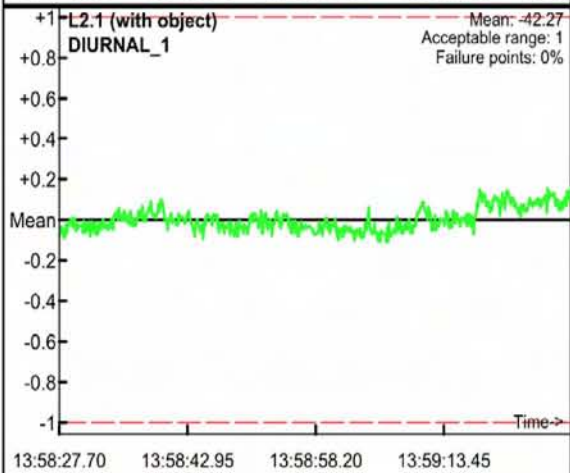
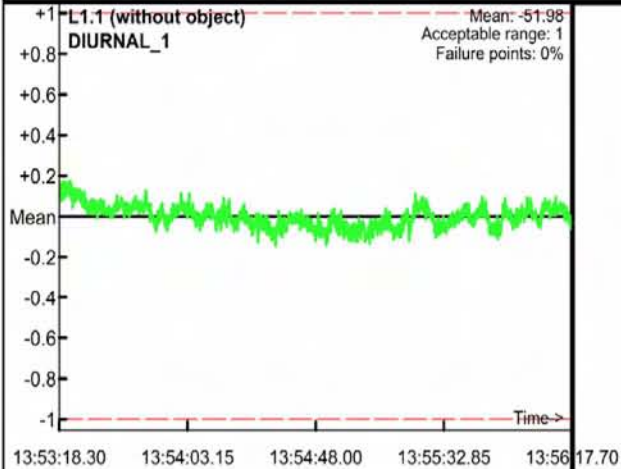
Static Calibration Test

Project: MGRC Geophysical Prove-out
Equipment: Magnetometers
Grid/Location:



Outside range
Acceptable limits

AM test
Operator: Brian Hecker
Date: 2007/06/20



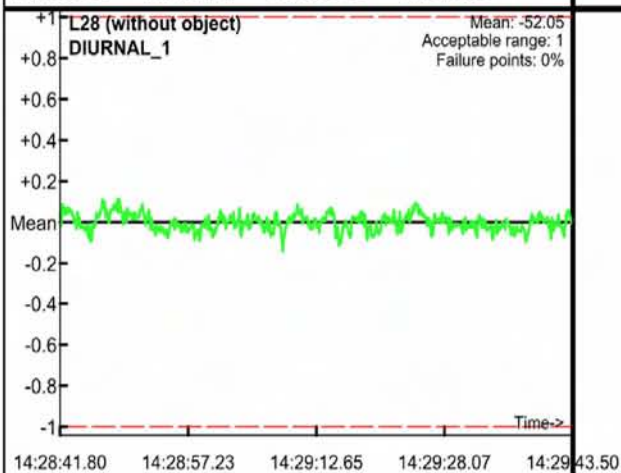
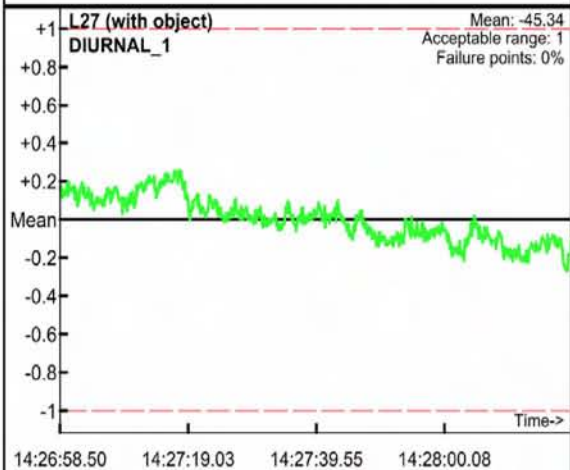
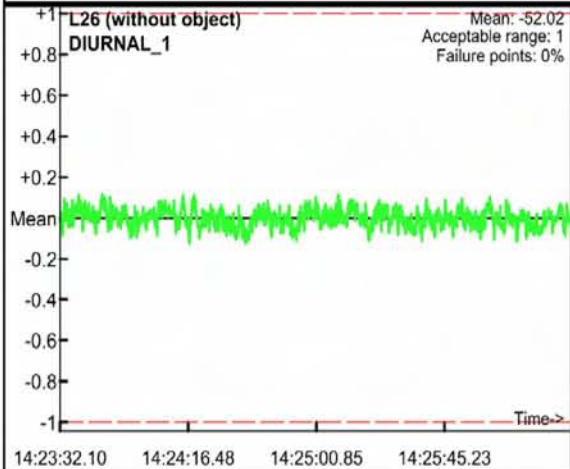
Static Calibration Test

Project: MGRC Geophysical Prove-out
Equipment: Magnetometers
Grid/Location:



Outside range
Acceptable limits

AM test
Operator: Brian Hecker
Date: 2007/06/20

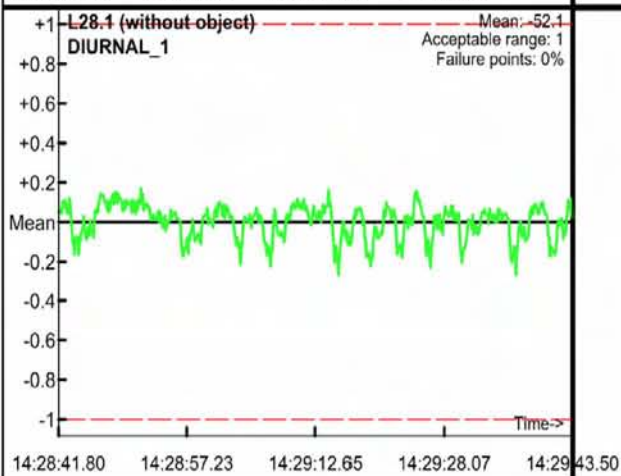
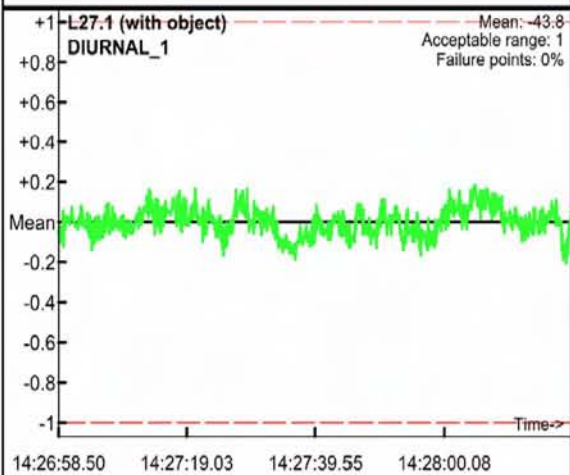
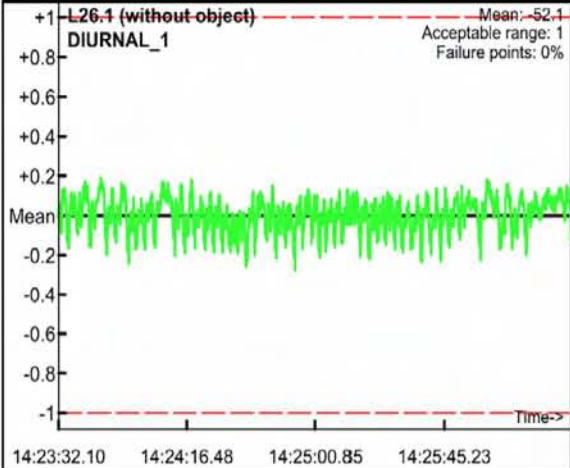


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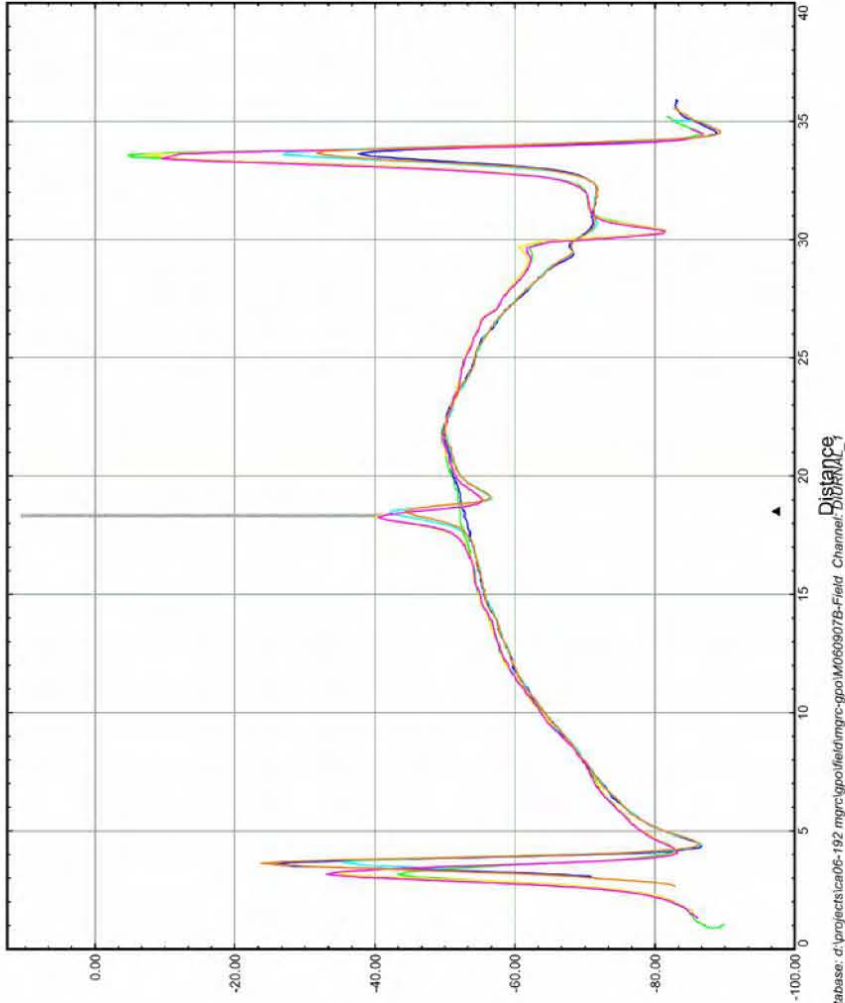
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Equipment: Magnetometers
Grid/Location:

● Outside range
— Acceptable limits

AM test
Operator: Brian Hecker
Date: 2007/06/20



MAG Latency Field 2 18-inch Sensor Height



database: c:\projects\ca06-192 mgc\lgp\field\mgc-gpo\14060907B-Field Channel: Distance

MAP
6 line test



LEGEND

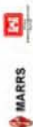
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- Normal Pace
- Normal Pace with object
- Normal Pace with object
- Fast Pace with object
- Slow Pace with object
- Target position
- Lateral tol. exc.

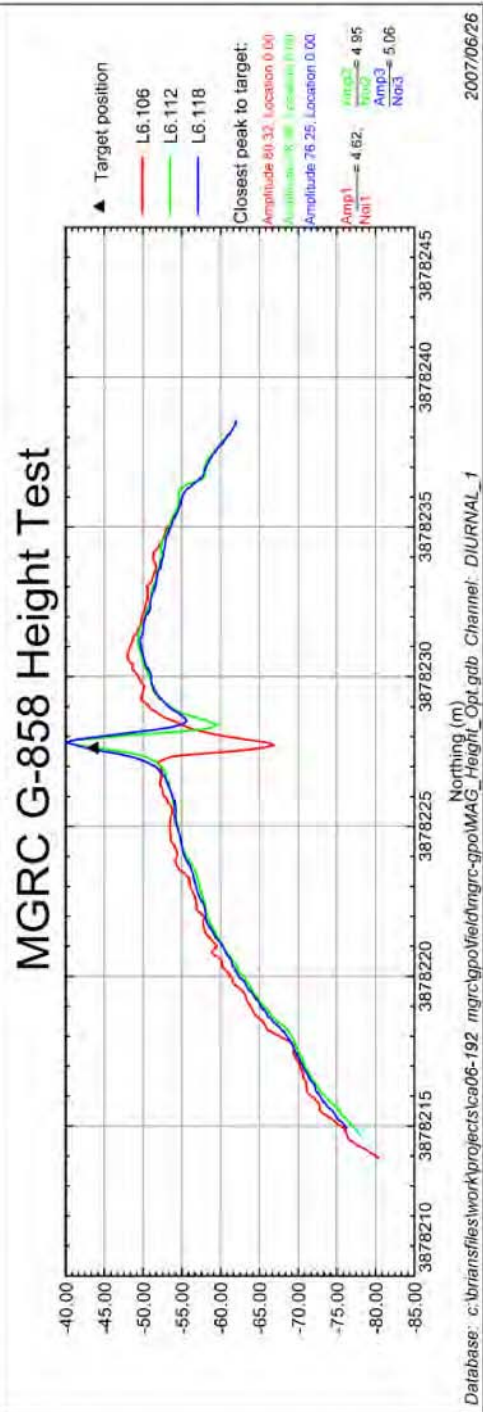
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Proposed time lag = -0.391 sec

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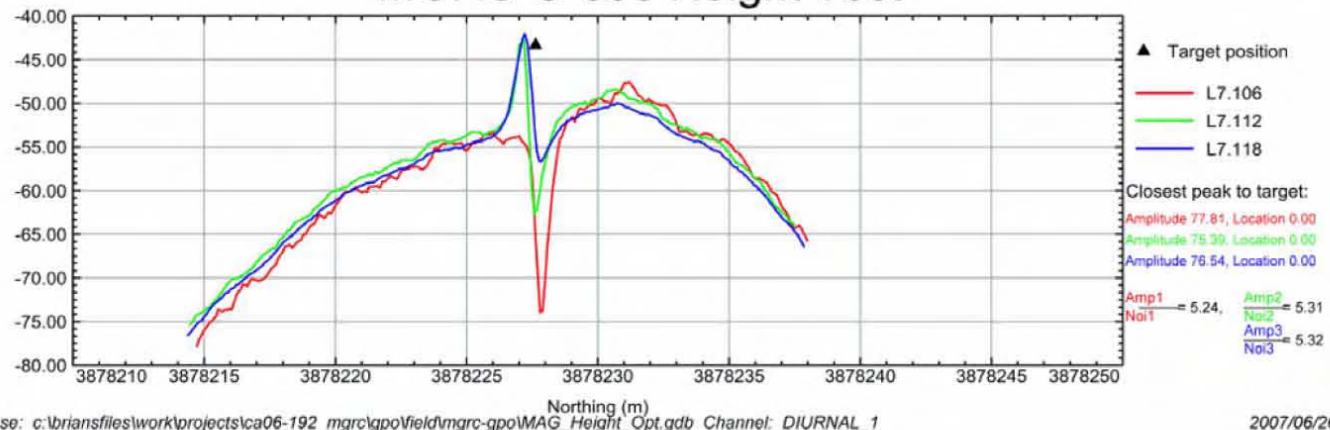


Client: USACE	
Project: MGRC Geophysical Prove-out	
Contractor: MARRS Services, Inc.	
Created by: Brian He	Verified by:
Date: 2007/04/08	File: MG0907B-Field_ELineTest
Page number:	Approved:
	
	





MGRC G-858 Height Test



Database: c:\bransfiles\work\project\sc06-192_mgrchg\pool\field\mgrc-gpo\MAG_Height_Opt.gdb Channel: DIURNAL_1
Northing (m)
2007/06/26

Target position

- L8.106
- L8.112
- L8.118

Closest peak to target:
 AmpNode 77 13, Location 0.00
 Amplitude 74.88, Location 0.00
 Amp1 = 4.71, Amp2 = 5.08
 Nat1 = 5.29, Nat2 = 5.29

Database: c:\briansfiles\work\projects\ca06-192_mgr\gpo\fieldmgr\gpo\MAG_Height_Opt.gdb Channel: DIURNAL_1
Northing (m)
2007/06/26

▲ Target position

— L8.206
— L8.212
— L8.218

Closest peak to target:

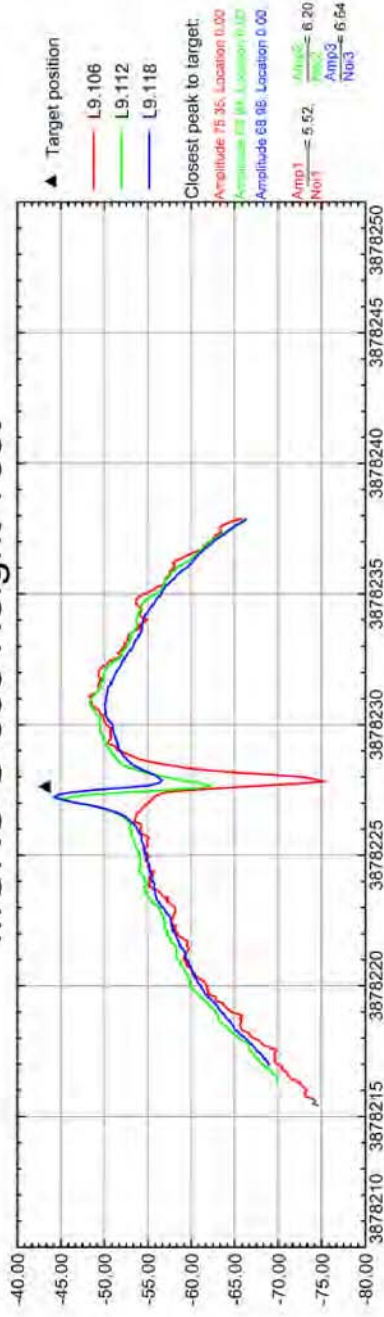
Amplitude	Location
66.19	Location 0.00
72.91	Location 0.00
0.00	Location 0.00

Amplitude 66.19, Location 0.00
Amplitude 72.91, Location 0.00
Amplitude 0.00, Location 0.00

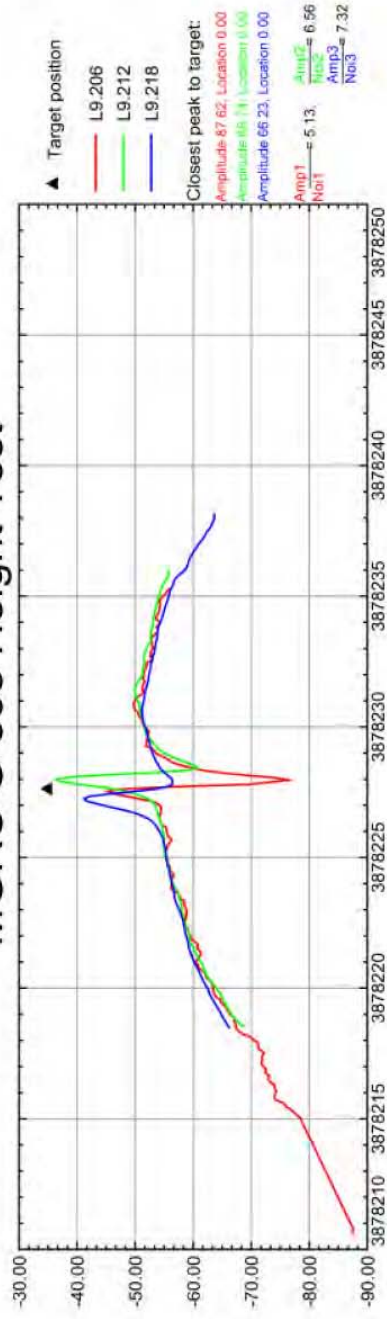
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MGRC G-858 Height Test



MGRC G-858 Height Test





Los Angeles District



Temporary Re-location Plan

Former Mojave Gunnery Range "C" RI/FS

Kern County, California



Contract No. W91PL-06-D-0008 DO-0001

Project No. J09CA728101

Prepared for:

U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Blvd.
Los Angeles, CA 90017

FINAL

January 2008

Prepared by:

MARRS Services, Inc.
13360 Firestone Boulevard, Suite 2A
Santa Fe Springs, CA 90670



1.0 Temporary Re-locations

This Plan establishes the purpose and procedures to be followed for residents of California City during the Mojave Gunnery Range "C" (MGRC) Remedial Investigation/Feasibility Study (RI/FS) in case a temporary re-location is required. A temporary re-location of California City residents may be required whenever there is the potential for an intentional or unintentional detonation of unexploded ordnance (UXO). RI/FS activities that will pose the potential of unintentional detonation include the intrusive investigation of representative geophysical targets or the removal of identified UXO. Activities that may require intentional detonation are the disposal of recovered munitions items that are too hazardous to relocate to a consolidated disposal area. Most intentional detonations can be controlled using engineering controls which are discussed in detail below. It is not anticipated that the Surface Visual Surveys (SVS) or Digital Geophysical Mapping (DGM) activities will require the temporary re-location of residents, unless direct evidence of UXO is discovered requiring removal or disposal activities. During RI/FS field activities, associated with intrusive investigations, removal activities, or disposal activities, non-essential personnel may not enter the Exclusion Zone (EZ) unless accompanied and supervised by a UXO Specialist. When non-essential personnel enter the EZ, all UXO operations must cease until the individual(s) leaves the EZ.

If a temporary re-location is required, an assessment of the potential danger will be performed prior to the temporary re-location. As a preliminary estimate, the largest Minimum Separation Distance (MSD) of the munitions types reported for each MRA determines the size of the initial EZ. The MSD is based on the Hazardous Fragmentation Distance (HFD) for unintentional detonations as listed in Chapter 6, Table 6-1 of the MGRC RI/FS Work Plan. If a larger munitions type is discovered within a given MRA, the larger MSD will be used as a basis for determining the initial EZ in the MRA, henceforth. An EZ can be adjusted to a size smaller than the MSD of the largest ordnance type if the geophysical "signature" of the potential UXO being investigated indicates a mass of material equivalent to an ordnance type with a smaller MSD, or if engineering safety controls are used during a controlled detonation to reduce the distance at which exploding fragments could cause injury. MARRS' UXO Safety Officer (UXOSO) will be responsible for calculation and management of these distances.

1.1 Contingency Planning for Re-locations

The RI/FS field investigation involves an established sequence of visual investigations, electromagnetic investigations, mapping, and intrusive actions. The MEC investigation work is scheduled so that all intrusive actions can be completed and the potential UXO safety hazard mitigated on the day of the temporary re-location.

UXO can be encountered unexpectedly on the surface, during the SVS and DGM. If potential UXO are encountered on the surface, an EZ will be established around the item until removal or disposal. US Army Corps of Engineers (USACE) guidelines do not allow Military Munitions Response Procedures during non-daylight hours. If necessary, the UXO will be secured (guarded) until the next day when it could be safely dealt with. Although unlikely, the possibility also exists that field investigation teams could encounter a UXO much larger than anticipated, and its removal could require a larger temporary re-location area. In this event, UXOSO will notify the USACE Ordnance and Explosives Safety Specialist (OESS), and then notify the sheriff and other appropriate agencies. The USACE OESS will determine the size of the EZ required as well as appropriate engineering controls. Engineering controls will be used (where practical) to reduce EZ requirements for unplanned evacuations. The sheriff will then notify residents of the need for temporary re-location of a larger area. A temporary re-location and removal will be carried out as soon as possible.

1.2 Media Communication (Public Awareness/Information)

An important step in developing trust and securing cooperation is to be sure that the public understands the project and its safety benefits to the community. The USACE Project Manager is responsible for developing a series of informational materials to meet these needs, and will work with the sheriff's offices to coordinate information about evacuations. MARRS and their subcontractors will work closely with the USACE Project Manager to prepare and distribute informational materials. Public outreach tools for this project include:

- Development of a web page
- Distribution of an ordnance safety brochure
- Development and execution of a Public Meeting to inform the public of the project purpose and goals, temporary re-location procedures and safety hazards

Media communication is another essential part of public outreach, as it keeps the community informed as the project develops. Prior to the first scheduled temporary re-location but after the California City Police Department and the affected tenants and businesses have been notified, the USACE Project Manager will distribute a press-release to local newspaper and radio outlets giving general information about the scheduled temporary re-location and about the RI/FS investigation. The USACE Project Manager may issue additional press releases during the course of the RI/FS field investigation, as needed.

At the discretion of the USACE Project Manager, representatives of the media may be invited to observe RI/FS field investigation activities. Since news representatives are not UXO-trained, they must be accompanied and supervised by the USACE OESS, a SUXOS, or UXOSO. During these visits, UXO crews will be limited to actions that will not violate the safety of non-essential personnel while visitors are within the EZ.

1.3 Coordination and Review with Cooperating Agencies

At the time this plan is being prepared, it is not known how much of an impact RI/FS evacuations will have on county agencies, volunteer fire crews, and others. The USACE Project Manager will communicate regularly with cooperating agencies to find out how evacuations can be managed to minimize impacts on the services provided by the agencies.

1.4 Period of Re-locations

Operations will be conducted during daylight hours only. The daily work schedule will consist of no more than 10 hours per day, generally between the hours of 7 a.m. to 6 p.m. The intent of this schedule is to have the temporary re-location take place when most people are at work or school. Every effort will be made to complete intrusive actions during these hours. The duration of evacuations will vary based on the tasks performed. All attempts will be made to reduce the temporary re-location period to as short a duration as possible.

1.5 Road Closures and Interruption of Other Services

If the EZ includes a lightly traveled public road, closure may not be required if the intrusive action, can be halted when a vehicle approaches the EZ. For a continuously used road or a longer intrusive action, a closure may be required to ensure that the action can be completed. In this instance, the California City Police Department will

determine whether the road closure will be handled by the Police Department, or the California City Department of Public Works. The California City Police Department will coordinate security, if needed, in addition to that provided by MARRS and its UXO subcontractor.

Road closures occasionally interrupt other services, such as mail or package delivery, meter reading, or garbage removal. Most service providers have standard methods for handling such interruptions, such as attempting the service again the next day; it is assumed that no special provisions will be required for interruption of services.

In the event that an intrusive action would require temporary re-location of a school, the school district will be notified as a property owner within the temporary re-location zone. If a heavily used road used by school buses must be closed, the California City Police Department will notify the school and recommend re-routing. However, every effort will be made to carry out the intrusive action so that roads won't be closed during times that will interfere with school bus service.

1.6 Businesses

Few if any businesses are expected to require temporary re-location as a part of RI/FS investigation. If temporary re-location of a business site is required, the USACE will discuss with the proprietor the most convenient time for a temporary re-location, as to minimize its impact on the business.

1.7 Damage to Structures or Other Property

Efforts will be made by the Contractor to avoid damage to structures, fences, utility poles, roads, and other improvements. However, if damage occurs as a result of the work involved with this contract, and if found to be not the fault of the Contractor, and if found to be not the fault of existing and or latent defects within the designs of, and or geophysics of, and or materials of, and or workmanship of said structures, fences, utility poles, roads, and other improvements, the USACE may reimburse reasonable costs for repairs pending availability of funds.

1.8 Process for Re-location

The initial step in the process of temporary re-location is to determine which residences will require temporary re-location. To determine the affected citizens the MARRS Project Team will perform GIS analysis using county records and aerial photos to

determine which parcels currently feature residences that may need to be evacuated. Current GIS analysis indicates a number of MRAs in close proximity to residences. These are MRAs 2, 3, 4, 9 and 10. Prior to the first notice the MARRS Project manager will present USACE Los Angeles District Project Manager with a list of residences that fall within the proscribed EZs for each MRA.

Notification procedures to inform the general public as to the date, time and location of the Public Meeting are outlined in the MGRC RI/FS Public Information Plan (PIP). Additionally, a letter of notification/invitation to the Public Meeting will be mailed to all residences potentially affected by evacuations within the MSD of any of the MRAs scheduled for investigation (Attachment 1). The Public Meeting will describe the details of temporary re-location procedures and the USACE Project Manager, MARRS Project Manager and Police Department will respond to questions from the general public, all cooperating tenants and owners. This letter will also serve as our initial contact to develop a phone list for future contact throughout the temporary re-location process.

During the notification process, MARRS Project Manager and the USACE OESS will be responsible for providing the information regarding the geographic area of interest prior to beginning the notification process. A follow-on letter will be mailed to all residences potentially affected by evacuations that will describe the MGRC RI/FS and the need for evacuations to ensure public safety. This mailing will include a reply postcard, allowing individuals to indicate their intention to cooperate. A sample of this letter is included as Attachment 2 and the reply postcard is included as Attachment 3. The USACE Project Manager will establish a system to track persons notified throughout the process of each temporary re-location and their responses to the notification(s). This information will be made available to the project team through the use of tracking database.

1.8.1 Point of Contact

Throughout this process the primary point of contact for all evacuations will be the California City Police Department. The California City Police Department will provide information about temporary re-location procedures to potentially affected individuals, and notify affected individuals of specific evacuations. The California City Police Department is also the point of contact for requesting assistance from all other county services. For the USACE, the primary RI/FS point of contact is Matt Shun, the USACE Project Manager. The MARRS Services point of contact is Chuck Welk, the MARRS Project Manager.

1.8.2 Notification

Upon completion of the SVS and DGM activities for each MRA, GIS analysis will be performed using, field data, county records, and aerial photos to determine which parcels currently feature residences that will need to be evacuated. MRAs in close proximity to residences are MRAs 2, 3, 4, 9 and 10. Approximately 3 weeks prior to initiating intrusive activities associated in the specified geographic area, the California City Police Department will attempt to contact the residents using the contact list assembled as a result of GIS analysis and Public Meeting participation. They will provide the time and date for the specific evacuations with the assistance of the USACE. Individuals who provided telephone contact information in response to the first notice will be called to provided the information regarding the time and date of the planned evacuations.

Approximately two weeks prior to initiating intrusive activities associated in the specified geographic area, the California City Police Department attempt to follow up with non-responding or non-compliant individuals. MARRS Services, Inc. will compile a list of individuals who still have not responded, or have not shown intent to cooperate, and will forward this list to the USACE Project Manager.

MARRS will contact the California City Police Department 1 week prior to fieldwork for each area that may require temporary re-location. The California City Police Department will notify the appropriate County agency representatives prior to a temporary re-location. At a minimum, these include:

- Fire Department
- Office of Emergency Services
- Ambulance service

If road closures are required, the California City Police Department will notify (as needed):

- The California Highway Patrol.
- The Kern County Department of Public Works

The California City Police Department will coordinate with these two agencies to determine what personnel and material (roadblocks, signage) are needed for road closure.

The Final Notice takes place on the day of a specific temporary re-location. On the day of the temporary re-location, the MARRS SSO will check that temporary re-location is complete and report his findings to the USACE OESS and the California City Police Department who will talk with the individuals who refuse to evacuate their homes.

1.9 Standard Re-location Procedures

On the day of the temporary re-location, the MARRS UXOSO will check residences and monitor open spaces to ensure that the temporary re-location is complete and that the intrusive action may proceed safely. The MARRS SSO will report these results to the USACE OESS, who will in turn notify the sheriff's office. If any resident refuses to evacuate, the California City Police Department representative will attempt to persuade the resident to leave. When the temporary re-location is deemed complete by the USACE OESS, he will inform the MARRS UXOSO, who will then notify the SUXOS that security personnel may be deployed and the intrusive action may proceed.

1.10 Security

Prior to initiating an intrusive action, all non-essential personnel will be evacuated to a safe distance outside the EZ. The SUXOS will ensure that MARRS UXO personnel physically block all avenues of entry. Radio communications will be maintained among all concerned parties, which will include the USACE OESS, the MARRS UXOSO, and SUXOS, MARRS' UXO subcontractor, and may also include the California City Police Department representative and other county services. Avenues of entry will not be opened until authorized by the UXOSO. A constant state of vigilance will be maintained by all personnel to detect any intruders into the EZ.

1.11 Livestock and Pets

Property owners and tenants will be advised that livestock should be removed from the EZ to ensure their safety. The property owner or tenant is responsible for assuring that livestock are moved outside the EZ. The USACE will have a small holding area available for livestock affected by temporary re-location. Livestock remaining within the EZ are left at the risk of their owner. However, if it appears that the livestock could be dangerous to the RI/FS field investigation teams; their owner will be requested to move

them. The notification letter will include a map so that the property owner is informed of the full extent of the EZ.

Evacuations of pets are not required as long as they do not pose a hazard to the field investigation team. Pet owners are expected to make arrangements for their pets. The USACE will have space available at a designated kennel for pets affected by temporary re-location.

1.12 Waiting Areas

For one-day evacuations planned as part of this RI/FS field investigation, it is anticipated that most will not need a waiting area. However, a small waiting area will be designated for people needing temporary shelter during the temporary re-location of their home. If an individual has particular medical or other needs and requires a special waiting area, they will be advised to contact the County Social Services Department.

ATTACHMENT 1

Invitation to MGRC Public Meeting

DEPARTMENT OF THE ARMY

LOS ANGELES DISTRICT, CORPS OF ENGINEERS

P.O. Box 532711, Los Angeles, CA.90053-2325

January 4, 2008

REPLY TO
ATTENTION OF

Programs and Project
Management Division
CESPL-PM-M

Subject: Invitation to MGRC Public Meeting

Dear Resident of the Former Mojave Gunnery Range "C",

The U.S. Army Corps of Engineers (USACE) is performing a Remedial Investigation/ Feasibility Study to investigate the potential for remnant Unexploded Ordnance (UXO) at the former Mojave Gunnery Range "C" (MGRC) (see attached map). MGRC was used as an air-to ground gunnery range for training during World War II. The land used for this range was returned to private ownership in 1951 and UXO items have been recovered over the past years. Ten Munitions Response Areas (MRA's) have been identified for investigation during the MGRC RI/FS based on records reviews and site visits.

During the period of January through April 2008, the USACE is planning to study the area near your property or on your property if you have given permission. This study involves mapping, locating, and removing metal objects, including some that may be unexploded ordnance buried several feet deep. You are receiving this letter because your residence is in close proximity to the study area and in certain cases you may be requested to evacuate your residence.

We would like to invite you to a Public Meeting on January 23rd, 2008 at 6:00 PM. The meeting will be held at the California City Council Chambers. During this meeting we will explain the purpose and procedures of the investigation and the potential for temporary re-location of homes in close proximity to the investigation areas during fieldwork. The USACE and its contractors will be present at this meeting to answer questions about the investigation and how it might affect you. We will provide a tentative schedule and locations for evacuations in your general area. If you cannot attend, please let us know and we will try to answer your questions by phone and can mail you the information packet presented at the Public Meeting. If you are a property owner and your land is leased or rented, please inform your tenants of this meeting and secure their cooperation.

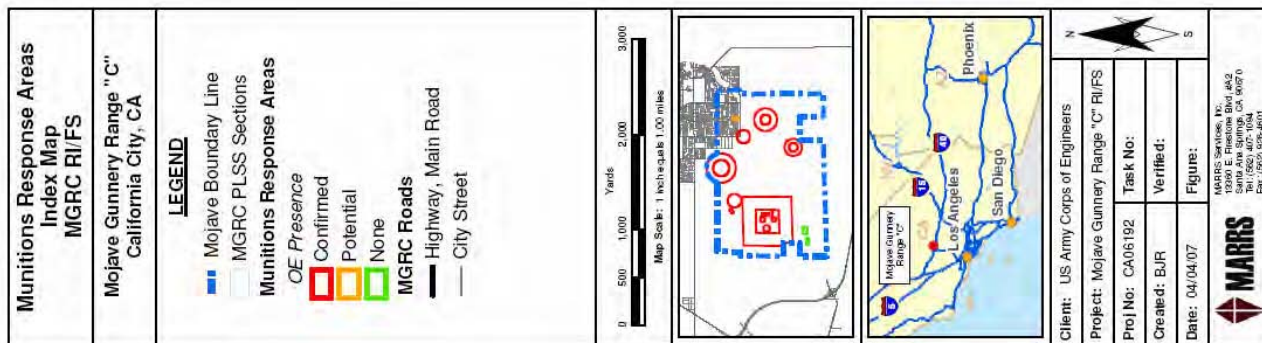
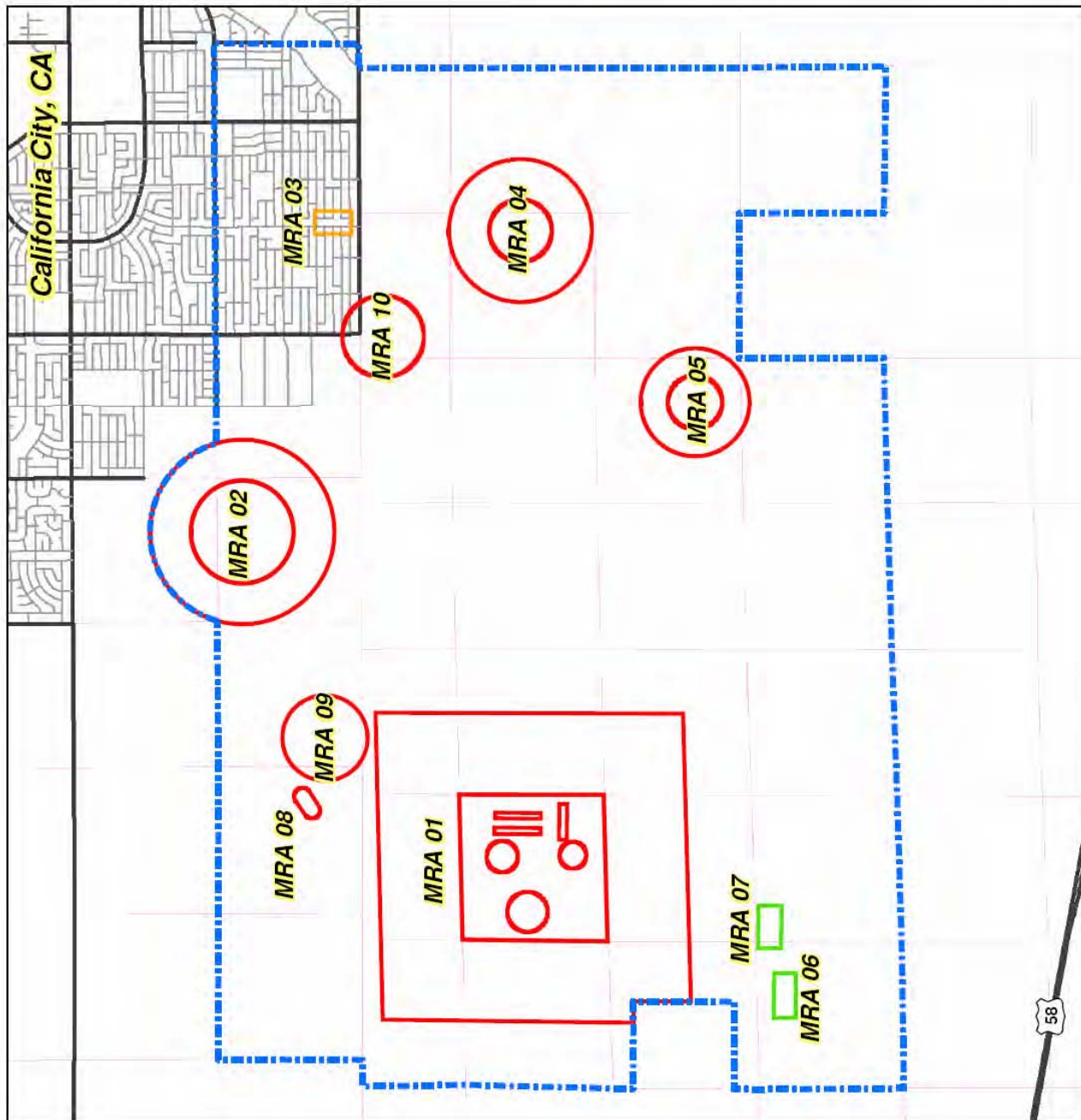
We need to know that the area will be safe for the increasing numbers of people who live and work in this area. We expect that you'd probably like to know more about the work we are doing near your home or property on the former Mojave Gunnery Range "C", and may have questions about it. This investigation will give us a better picture of whether, and how much, UXO is present within the area. We regret inconvenience, but hope that the result of increased safety and security for you and your neighbors is welcome. We look forward to meeting you.

Sincerely,

Matthew H. Shun
Project Manager
USACE - Los Angeles District
915 Wilshire Blvd., Cube 15009
Los Angeles, California 90017

Phone = 213-452-3976; Fax = 213-452-4213; e-mail matthew.h.shun@usace.army.mil

Enclosures



ATTACHMENT 2

Notice of Potential Evacuation Letter

California City Police Department Letterhead

Subject: Notification of Potential Evacuation

Dear California City Resident,

The U.S. Army Corps of Engineers (USACE) is performing a Remedial Investigation/ Feasibility Study to investigate the potential for remnant Unexploded Ordnance (UXO) at the former Mojave Gunnery Range "C" (MGRC) (see attached map). MGRC was used as an air-to ground gunnery range for training during World War II. The land used for this range was returned to private ownership in 1951 and UXO items have been recovered over the past years. Ten Munitions Response Areas (MRA)s have been identified for investigation during the MGRC RI/FS based on records reviews and site visits.

January through April 2008, the USACE is planning to study the area around your property, or on your property if you have given permission. This study involves mapping, locating, and removing metal objects, including some that may be unexploded ordnance buried several feet deep. You are receiving this letter because your residence is in close proximity to the study area and in certain cases you may be requested to evacuate your residence.

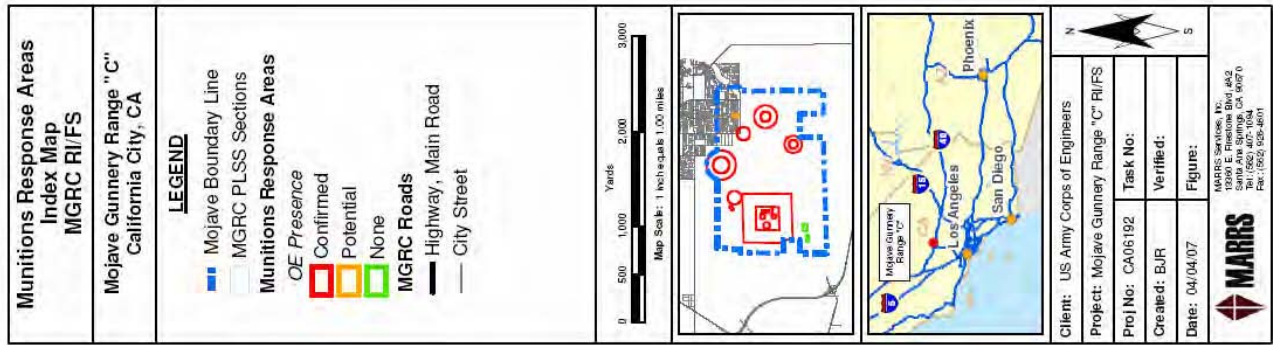
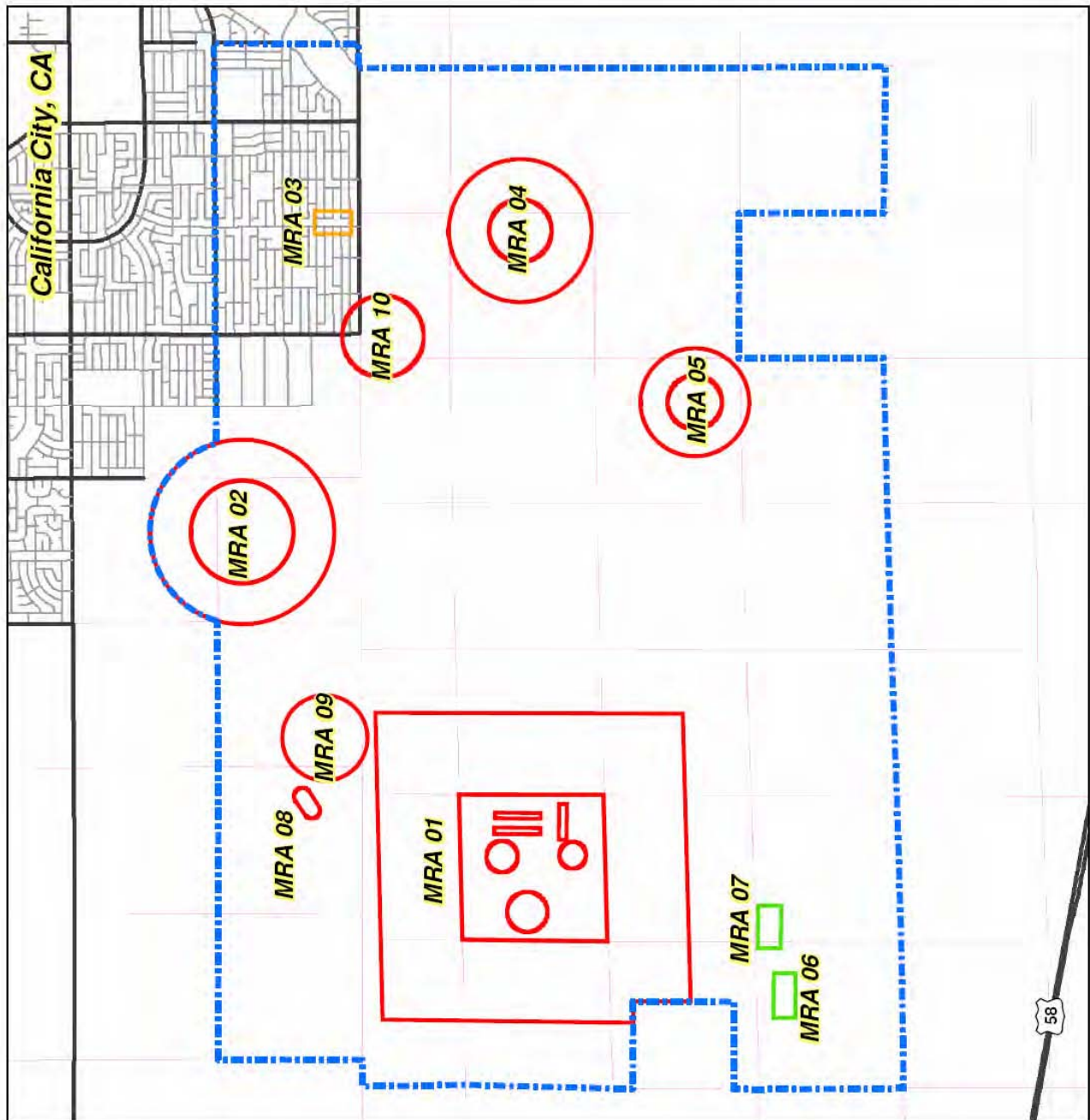
This study will determine whether there is potential unexploded ordnance. A temporary re-location will be needed only if there is potential UXO that must be removed. We will be sure to give you plenty of advance notice to make arrangements if a temporary re-location from your home is needed. Hopefully, you were able to attend the MGRC Public Meeting on the 13th of December 2007. Please return the enclosed prepaid postcard to indicate your intent to cooperate. If you have questions about the study and how it might affect you, please call the USACE Ordnance and Explosives Safety Specialist at 858-674-6766 if you need to know more about the project before deciding, please be sure to ask. We will make every effort to answer your questions about the project, how it affects you, and how it will make the former Mojave Gunnery Range "C" area safer.

To give you some basic information, evacuations take place during daylight hours only. The investigation will be performed using study transects throughout the 10 MRAs identified at the former Mojave Gunnery Range "C". If a metal object discovered during the investigation has the potential of being UXO, we must ensure public safety by evacuating the area while the ordnance is being dug up, removed, or detonated. During the investigation in your particular area, you may be asked to leave the Exclusion Zone (EZ) to ensure your safety. We will attempt to contact you approximately two weeks prior to a temporary re-location affecting you; this should allow enough time for you to make arrangements. If you have special needs or scheduling considerations, the USACE and their contractor, MARRS Services, will try to accommodate you. Unless you have already given rights-of-entry for study, no one will enter your property during the temporary re-location, except to knock on your door on the day of the temporary re-location to be sure the temporary re-location is complete. If you are a property owner and your land is leased or rented, please inform your tenants and secure their cooperation.

Cooperating with study is tremendously important to you, your family, and the community. We need to know that the area will be safe for the increasing numbers of people who live and work in this area. This initial investigation will give us a better picture of whether, and how much, UXO is present within the area.

Best Regards,

California City Police Department
Ms. Linda Lunsford, Chief
760-373-8606



ATTACHMENT 3

Notice of Potential Evacuation Reply Card

Notice of Potential Evacuation Reply Card

Front

Project Manager Paid USACE - Los Angeles District 915 Wilshire Blvd., Cube 15009 Los Angeles, California 90017	Postage
California City Resident Address	

Back

<i>Mojave Gunnery Range "C" Potential Evacuation</i>	
<p>I understand that all persons may need to be evacuated from my home or property during an investigation of unexploded ordnance. The evacuation will take place during daylight hours only. This consent does not give rights-of-entry, except to assure that the evacuation is complete.</p>	
<input type="checkbox"/> I am willing to evacuate my home or property, as needed.	
<input type="checkbox"/> I may be to consider evacuating my home or property, but I have questions about it. Please contact me at _____	
<input type="checkbox"/> I am willing to evacuate my home or property but have special needs (schedule or limitations) that I would like to discuss with you.	
Signature	Name